



# UNITED STATES PATENT AND TRADEMARK OFFICE

*Handwritten signature/initials*

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,988	07/15/2002	Jurgen Markl	GKS-102.0(7911/86349)	2621
24628	7590	11/12/2004		
WELSH & KATZ, LTD 120 S RIVERSIDE PLAZA 22ND FLOOR CHICAGO, IL 60606			EXAMINER MAYER, SUZANNE MARIE	
			ART UNIT	PAPER NUMBER
			1653	

DATE MAILED: 11/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/049,988

**Applicant(s)**

MARKL ET AL.

**Examiner**

Suzanne M. Mayer, Ph.D.

**Art Unit**

1653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-50 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

Art Unit: 1653

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claims 1-10, 12-24 and 49-50, drawn to the DNA of *Haliotis tuberculata* hemocyanin protein 1 (HtH1) and an intron, where a single nucleic acid sequence must be elected from SEQ ID Nos: 1-8 and 80-87; and a single Intron sequence must be elected from SEQ ID Nos: 109-124.

Group II, claims 1-10, 12-24 and 49-50, drawn to the DNA of *Haliotis tuberculata* hemocyanin protein 2 (HtH2) and an intron, where a single nucleic acid sequence must be elected from SEQ ID Nos: 9-15, 88-95 and 157; and a single DNA intron sequence must be elected from SEQ ID Nos: 125-138.

Group III, claims 1-10, 12-24 and 49-50, drawn to the DNA of *Megathura crenulata* hemocyanin protein 1 (KLH1) and an intron, where a single nucleic acid sequence must be elected from SEQ ID Nos: 16-19, 54-56 and 96-101; and a single DNA intron sequence must be elected from SEQ ID Nos: 139-146.

Group IV, claims 1-10, 12-24 and 49-50, drawn to the DNA of *Megathura crenulata* hemocyanin protein 1 (KLH2) and an intron, where a single nucleotide sequence must be elected from SEQ ID Nos: 20-24, 57-62 and 102-108; and a single DNA intron sequence must be elected from SEQ ID Nos: 147-155.

Group V, claims 25-35 and 38-42, drawn to the peptides of *Haliotis tuberculata* hemocyanin protein 1 (HtH1) and pharmaceutical compositions containing the peptides, where a single amino acid sequence must be elected from SEQ ID Nos: 25-32 and 63-64.

Group VI, claims 25-35 and 38-42, drawn to the peptides of *Haliotis tuberculata* hemocyanin protein 2 (HtH2) and pharmaceutical compositions containing the peptides,

Art Unit: 1653

where a single amino acid sequence must be elected from SEQ ID Nos: 33-39, 65-68 and 156.

Group VII, claims 25-35 and 38-42, drawn to the peptides of *Megathura crenulata* hemocyanin protein 1 (KLH1) and pharmaceutical compositions containing the peptides, where a single amino acid sequence must be elected from SEQ ID Nos: 40-43 and 69-73.

Group VIII, claims 25-35 and 38-42, drawn to the peptides of *Megathura crenulata* hemocyanin protein 2 (KLH2) and pharmaceutical compositions containing the peptides, where a single amino acid sequence must be elected from SEQ ID Nos: 44-48, 74-79 and 158.

Group IX, claim 43, drawn to a medicament containing a hemocyanin polypeptide.

Group X, claims 44-46, drawn to a liposome containing hemocyanin DNA.

Group XI, claim 46, drawn to an antibody to a hemocyanin polypeptide.

Group XII, claims 47-84, drawn to a screening method for identification of tumor-specific DNA in a cell.

2. The inventions listed as Groups I-XII do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons.

3. Keller et al. disclose on p. 31, figure 4, and p. 32, figure 5, the amino acid sequences of the functional domains f, g, and h from *Haliotis tuberculata* hemocyanin protein 1 (HtH1). Specifically the h domain from Keller et al. is identical to SEQ ID No: 30 of the instant application with the exception of an added aspartate on the C-terminal end. However, since the claim language is open, an extension to the claimed sequence is acceptable. Thus the special technical feature that links all of the claims together is not novel over the prior art and lack of unity of invention is found to be proper.

4. Furthermore, each individual sequence represented by a SEQ ID No: is patently distinct from one another because each individual sequence has its own distinct amino acid sequence that is significantly different from all others and thus would require a separate search. Furthermore, as is pointed out on page one of the specification, each domain of hemocyanin, where a domain is represented by an individual SEQ ID No: in the instant application, differs from the others immunologically. Therefor, each SEQ ID No: has its own unique immunological function. Applicant if further reminded that this is **NOT an election of species.**

5. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement may be traversed (37 CFR 1.143).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suzanne M. Mayer, Ph.D. whose telephone number is 571-272-2924. The examiner can normally be reached on Monday to Friday, 8.30am to 5.00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber can be reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

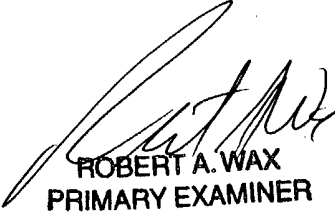
Art Unit: 1653

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*SMM*

SMM

29 October, 2004

  
ROBERT A. WAX  
PRIMARY EXAMINER  
*Art Unit 1653*